

**ABSTRACT**

A method and apparatus for accurately determining the rheology of a coating fluid and using this information to design application equipment and formulations, particularly for non-Newtonian fluids, including measuring the entrance transition effects for the fluid at process shear rates and time frames, and detecting to presence of dilatant flow. A device for measuring these transition effects has a pressure source for the fluid and connector for a selected capillary tube. The fluid is introduced to the capillary and a pre-determined shear rate and flow rate are achieved. The resulting back pressure in the container is measured. The test parameters are changed to obtain the separate transition effect measurements to correspond to process conditions.